FAA Approved Airplane Flight Manual Supplement
G1000 Integrated Avionics Update with Synthetic Vision/Pathways on Hawker Beechcraft G58

This Supplement is Applicable to the Following Manual(s):
58-590000-67

Airplane Serial Number: _____

Airplane Registration Number: _____

FAA Approved

By: _____

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on
Hawker Beechcraft G58

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SECTION 1 – GENERAL

This document is to be attached to the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual Part Number 58-590000-67 when the airplane is equipped with the Garmin G1000 Airframe System Software Version 0857.08 or 0857.09.

The information in this supplement supersedes or adds to the basic Pilot's Operating Handbook and FAA Approved Airplane Flight Manual only as set forth within this document. Users of the handbook are advised to always refer to the supplement for possibly superseding information and placarding applicable to the operation of the airplane.

G1000 GNSS (GPS/SBAS) Navigation system Equipment approvals

The Garmin G1000 Integrated Avionics GNSS navigation system installed in this aircraft is a GPS system with a Satellite Based Augmentation System (SBAS) comprised of two TSO-C145a Class 3 approved Garmin GIA 63Ws, TSO-C146a Class 3 approved Garmin GDU 104X Display Units, GARMIN GA36 and GA37 antennas, and GPS software version 3.2 or later approved version. The G1000 GNSS navigation system in this aircraft is installed in accordance with AC 20-138A.

The Garmin G1000 Integrated Avionics GNSS navigation system as installed in this aircraft complies with the requirements of AC 20-138A and is approved for navigation using GPS and SBAS (within the coverage of a Satellite Based Augmentation System complying with ICAO Annex 10) for IFR en route, terminal area, and non-precision approach operations (including those approaches titled "GPS", "or GPS", and "RNAV (GPS)" approaches). The G1000 Integrated Avionics GNSS navigation system installed in this aircraft is approved for approach procedures with vertical guidance including "LPV" and "LNAV/VNAV", within the U.S. National Airspace System.

The Garmin G1000 Integrated Avionics GNSS navigation system as installed in this aircraft complies with the equipment requirements of AC 90-105 and meets the equipment performance and functional requirements to conduct RNP terminal departure and arrival procedures and RNP approach procedures without RF (radius to fix) legs. Part 91 subpart K, 121, 125, 129, and 135 operators require operational approval from the FAA.

The Garmin G1000 Integrated Avionics GNSS navigation system as installed in this aircraft complies with the equipment requirements of AC 90-100A for RNAV 2 and RNAV 1 operations. In accordance with AC 90-100A, Part 91 operators (except subpart K) following the aircraft and training guidance in AC 90-100A are authorized to fly RNAV 2 and RNAV 1 procedures. Part 91 subpart K, 121, 125, 129, and 135 operators require operational approval from the FAA.

The Garmin G1000 Integrated Avionics GNSS navigation system as installed in this aircraft has been found to comply with the requirements for primary means of Class II navigation in oceanic and remote navigation (RNP-10) without time limitations in accordance with AC 20-138A and FAA Order 8400.12A. The G1000 can be used without reliance on other long-range navigation systems. This does not constitute an operational approval.

The Garmin G1000 Integrated Avionics GNSS navigation system as installed in this aircraft has been found to comply with the navigation requirements for primary means of Class II navigation in oceanic and remote navigation (RNP-4) in accordance with AC 20-138A and FAA Order 8400.33. The G1000 can be used without reliance on other long-range navigation systems. Additional equipment may be required to obtain operational approval to utilize RNP-4 performance. This does not constitute an operational approval.

The Garmin G1000 Integrated Avionics GNSS navigation system as installed in this aircraft complies with the accuracy, integrity, and continuity of function, and contains the minimum system functions required for PRNAV operations in accordance with JAA Administrative & Guidance Material Section One: General Part 3: Temporary Guidance Leaflets, Leaflet No 10 (JAA TGL-10 Rev 1). The GNSS navigation system has two ETSO-145 / TSO-C145a Class 3 approved Garmin GIA 63Ws, and ETSO-146 / TSO-C146a Class 3 approved Garmin GDU 104X Display Units. The G1000 Integrated Avionics GNSS navigation system as installed in this aircraft complies with the equipment requirements for PRNAV and BRNAV operations in accordance with AC 90-96A and JAA TGL-10 Rev 1. This does not constitute an operational approval.

Garmin International holds an FAA Type 2 Letter of Acceptance (LOA) in accordance with AC 20-153 for database Integrity, quality, and database management practices for the Navigation database.

Pilots and operators can view the LOA status at www.Garmin.com > Aviation Databases > Type 2 LOA Status.

Navigation information is referenced to WGS-84 reference system.

SECTION 2 – LIMITATIONS

AVIONICS

When in flight, the appropriate Garmin G1000 Cockpit Reference Guide for the Beechcraft Bonanza G58 must be immediately available to the flight crew.

AIRFRAME SYSTEM SOFTWARE VERSION	COCKPIT REFERENCE GUIDE P/N
0857.08	190-00526-02 Revision A or Later
0857.09	190-00526-03 Revision A or Later

G1000 GNSS (GPS/SBAS) NAVIGATION SYSTEM LIMITATIONS

The pilot must confirm at system initialization that the Navigation database is current.

Navigation database is expected to be current for the duration of the flight. If the AIRAC cycle will change during flight, the pilot must ensure the accuracy of navigation data, including suitability of navigation facilities used to define the routes and procedures for flight. If an amended chart affecting navigation data is published for the procedure, the database must not be used to conduct the procedure.

GPS/SBAS based IFR enroute, oceanic, and terminal navigation is prohibited unless the pilot verifies and uses a valid, compatible, and current Navigation database or verifies each waypoint for accuracy by reference to current approved data.

Discrepancies that invalidate a procedure must be reported to Garmin International. The affected procedure is prohibited from being flown using data from the Navigation database until a new Navigation database is installed in the aircraft and verified that the discrepancy has been corrected. Contact information to report Navigation database discrepancies can be found at www.Garmin.com>Support>Contact Garmin Support>Aviation. Pilots and operators can view navigation data base alerts at www.Garmin.com > In the Air> NavData Alerts.

When operating under instrument flight rules requiring an alternate airport, the required alternate airport must not be flight planned based on an RNAV (GPS) LP/LPV or LNAV/VNAV approach. The

alternate airport must be flight planned based upon an LNAV approach or available ground-based approach which the aircraft is equipped to fly.

For flight planning purposes, in areas where SBAS coverage is not available, the pilot must check RAIM availability. Within the United States, RAIM availability can be determined using the Garmin WFDE Prediction program, part number 006-A0154-01 (010-G1000-00) or later approved version with GARMIN GA36 and GA37 antennas selected, or the FAA's en route and terminal RAIM prediction website: www.raimprediction.net, or by contacting a Flight Service Station. Within Europe, RAIM availability can be determined using the Garmin WFDE Prediction program or Europe's AUGER GPS RAIM Prediction Tool at http://augur.ecacnav.com/augur/app/home. For other areas, use the G1000 WFDE Prediction program. This requirement is not necessary if SBAS coverage is confirmed to be available along the entire route of flight. The route planning and WFDE prediction program may be downloaded from the GARMIN G1000 website on the internet. For information on using the WFDE Prediction Program, refer to GARMIN WAAS FDE Prediction Program, part number 190-00643-01, 'WFDE Prediction Program Instructions'.

For flight planning purposes, operations within the U.S. National Airspace System on RNP and RNAV procedures when SBAS signals are not available, the availability of GPS integrity RAIM shall be confirmed for the intended route of flight. In the event of a predicted continuous loss of RAIM of more than five minutes for any part of the intended route of flight, the flight must be delayed, canceled, or re-routed on a track where RAIM requirements can be met or a ground based navigation system can be used.

For flight planning purposes for operations within European B-RNAV and P-RNAV airspace, if more than one satellite is scheduled to be out of service, then the availability of GPS integrity RAIM shall be confirmed for the intended flight (route and time). In the event of a predicted continuous loss of RAIM of more than five minutes for any part of the intended flight, the flight must be delayed, canceled, or re-routed on a track where RAIM requirements can be met or a ground based navigation system can be used.

For flight planning purposes, operations where the route requires Class II navigation the aircraft's operator or pilot-in-command must use the Garmin WFDE Prediction program to demonstrate that

there are no predicted outages on the specified route that would prevent the G1000 from providing primary means of Class II navigation in oceanic and remote areas of operation that requires (RNP-10 or RNP-4) capability. If the Garmin WFDE Prediction program indicates fault exclusion (FDE) is unavailable for more than 34 minutes in accordance with FAA Order 8400.12B for RNP-10 requirements, or 25 minutes in accordance with FAA Order 8400.33 for RNP-4 requirements, then the operation must be rescheduled when FDE is available.

Both GIA 63W GPS navigation receivers must be operating and providing GPS navigation guidance to the PFD and MFD for operations requiring RNP-4 and RNP-10 performance. This must be verified by referring to the MFD AUX-GPS STATUS page to determine the state of GPS1 and GPS2.

North Atlantic (NAT) Minimum Navigational Performance Specifications (MNPS) Airspace operations per AC 91-49 and AC 120-33 require both GPS/SBAS receivers to be operating and receiving usable signals except for routes requiring only one Long Range Navigation sensor. Operator's mandatory crosschecking procedures must include referring to the MFD AUX-GPS STATUS page to determine the state of GPS1 and GPS2.

Whenever possible, RNP and RNAV routes including Standard Instrument Departures (SIDs) and Obstacle Departure Procedures (ODPs), Standard Terminal Arrival (STAR), and enroute RNAV "Q" and RNAV "T" routes should be loaded into the flight plan from the database in their entirety, rather than loading route waypoints from the database into the flight plan individually. Selecting and inserting individual named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted. Manual entry of waypoints using latitude/longitude or place/bearing is prohibited.

"GPS", "or GPS", and "RNAV (GPS)" instrument approaches using the G1000 System are prohibited unless the pilot verifies and uses the current Navigation database. GPS based instrument approaches must be flown in accordance with an approved instrument approach procedure that is loaded from the Navigation database.

Not all published Instrument Approach Procedures (IAP) are in the Navigation database. Pilots planning on flying an RNAV instrument approach must ensure that the Navigation database contains the planned RNAV Instrument Approach Procedure and

that approach procedure must be loaded from the Navigation database into the FMS flight plan by its name.

IFR non-precision approach approval using the GPS/SBAS sensor is limited to published approaches within the U.S. National Airspace System. Approaches to airports in other airspace are not approved unless authorized by the appropriate governing authority.

The navigation equipment required to join and fly an instrument approach procedure is indicated by the title of the procedure and notes on the IAP chart. Use of the GARMIN G1000 GPS/SBAS receivers to provide navigation guidance during the final approach segment of an ILS, LOC, LOC-BC, LDA, SDF, MLS or any other type of approach not approved for "or GPS" navigation is prohibited. When using the G1000 VOR/LOC/GS receivers to fly the final approach segment, VOR/LOC/GS navigation data is must be selected and presented on the CDI of the pilot flying.

Navigation information is referenced to WGS-84 reference system, and should only be used where the Aeronautical Information Publication (including electronic data and aeronautical charts) conform to WGS-84 or equivalent.

Do not use SafeTaxi or Chartview functions as the basis for ground maneuvering. SafeTaxi and Chartview functions do not comply with the requirements of AC 20-159 and are not qualified to be used as an airport moving map display (AMMD). SafeTaxi and Chartview are to be used by the flight crew to orient themselves on the airport surface to improve pilot situational awareness during ground operations.

TIS AND GTS 820 TAS SYSTEMS

Use of the MAP - TRAFFIC MAP to maneuver the airplane for traffic avoidance without outside visual reference is prohibited. The Traffic Information System (TIS) and GTS820 (TAS) systems are intended as an aid for the pilot to visually locate traffic. It is the responsibility of the pilot to see and maneuver the airplane to avoid other traffic.

SYNTHETIC VISION

Use of the Synthetic Vision system display elements alone for aircraft control without reference to the G1000 primary flight instruments or the aircraft standby instruments is prohibited.

Use of the Synthetic Vision system alone for navigation, or obstacle or terrain avoidance is prohibited.

Use of the Synthetic Vision system traffic display alone to avoid other aircraft is prohibited.

SECTION 3 – EMERGENCY PROCEDURES

No Change

SECTION 3A – ABNORMAL PROCEDURES

SVS Displays information inconsistent with G1000 primary flight instrumentation.

On the PFD:

1. PFD key..... press
2. SYN VIS key..... press
3. SYN TERR key..... press
4. SVS is removed from both PFD displays .....Verify

Use G1000 primary displays for navigation and aircraft control.

G1000 operation in display backup mode is required

Select display backup mode on the G1000 system.

NOTE:

When display backup mode is selected, the MFD will initially present a non-SVS (blue sky over solid brown ground) display. SVS will be presented on the backup display within 20 seconds if it was enabled on the PFD when display backup was selected.

SECTION 4 – NORMAL PROCEDURES

For normal operating procedures, refer to the appropriate Cockpit Reference Guide, the Baron G58 AFM, 58-590000-67, or the Garmin G1000 Pilots Guide for the Beechcraft G58, 190-00629-03, Rev A or later.

SECTION 5 – PERFORMANCE

No Change

SECTION 6 – WEIGHT AND BALANCE/EQUIPMENT LIST

No Change

SECTION 7 – SYSTEMS DESCRIPTION

For systems descriptions, refer to the Baron G58 AFM, 58-590000-67, or the Garmin G1000 Pilots Guide for the Beechcraft G58, 190-00629-03, Rev A or later.

SECTION 8 – HANDLING, SERVICING AND MAINTENANCE

No Change